

MULTITASKING MICROCONTROLLER FOR CONTROLLING THE
PHYSICAL LAYER OF A NETWORK INTERFACE CARD
AND METHOD OF OPERATION

ABSTRACT OF THE DISCLOSURE

5 There is disclosed an apparatus for controlling a physical
layer interface of a network interface card in real time. The
apparatus comprises: 1) a first memory for storing a multitasking
control program, the multitasking control program comprising a main
routine and a plurality of subroutines callable by the main
routine; 2) a second memory for storing a plurality of multitasking
vectors associated with the multitasking control program; and 3) a
microcontroller for executing the multitasking control program,
wherein program execution control is transferred from the main
routine to a first one of the plurality of subroutines when the
first subroutine is called by the main routine and wherein the
first subroutine, upon encountering a decision point in the first
subroutine that is not yet capable of being decided, updates a
first one of the plurality of multitasking vectors associated with
the first subroutine with an address of the decision point and
transfers program execution control back to the main routine.